

ABSTRACT OF THE DISCLOSURE

- 5 A frequency shifting device. The present invention provides a device and method for shifting a frequency of an optical signal comprising the steps of providing a layer of optically refractive material having a moving refractive boundary responsive to an application of an electrical signal. The inventive device includes a layer of optically refractive material having a refractive boundary responsive to an application of an electrical signal and an arrangement for providing an electrical signal to the layer to effect a predetermined frequency shift of an optical signal passing therethrough. In an illustrative embodiment, the device includes an active polymer layer, an optically conductive first cladding disposed beneath the active polymer layer, and a second cladding layer disposed above the active polymer layer, a microstrip line disposed over the second cladding layer and a ground plane beneath the first cladding layer.
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